



Case report

Elbow dislocation secondary to fall during police arrest



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ABSTRACT

A case of total elbow dislocation with significant swelling and loss of distal pulses during police arrest is described. To date, this specific injury in relation to police arrest has not been described in the literature. Whilst attempting to remove the detainee from a public transport vehicle, the patient and the officers involved fell to the ground with his arm slightly flexed. He was handcuffed to the rear and taken to the police office. Whilst there, it was noted that his left elbow was swelling dramatically and he complained of pain. The detainee and officers attended the emergency room and he was found to have a total dislocation of the left elbow and vascular compromise of the limb. The elbow was promptly reduced with sedation and a post reduction angiogram demonstrated injury to the tissues surrounding the brachial artery.

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1. Introduction

The elbow joint is a complex joint that displays a fine balance between stability and mobility. Although it allows a wide range of movement, it takes significant force to dislocate. Up to one third of elbow dislocations are associated with fractures. It is essential these dislocations are reduced promptly to avoid neuro-vascular complication and damage to the cartilaginous structures.¹ During the arrest of individuals, “taking to the ground” is a common tactic in those who actively resist such detention. There have been no published reports of elbow dislocation secondary to a fall whilst being arrested.

2. Case report

A 24 year old male presented to the Emergency Department in police custody. The history provided was that he was arrested from a public service vehicle, during which he resisted arrest and he and the officers fell forwards. The patient's arms were outstretched as he fell and he landed on the palm of his hand. After the fall he was

handcuffed to the rear and initially taken to the police office whereby it was noted that his left elbow was swollen and acutely painful.

Initial assessment at the Emergency Department revealed severe pain to the left elbow joint, with a large purple haematoma and absent radial and brachial artery pulses. A plain radiograph demonstrated a total dislocation of the left elbow joint Fig. 1. Under ketamine sedation, his elbow was relocated associated with a return of the radial pulse. Of concern was the variable strength of the pulse in association with the position of the elbow (maximally present at 90° elbow flexion) and CT angiogram was performed revealing trauma and bruising to the tissues adjacent to the brachial artery. The patient's left arm was placed in a polysling and he was admitted for observation.

The most common dislocation is posterior, usually caused by a fall onto an extended arm and the secondary force of partial flexion at the elbow on impact drives the olecranon (radius and ulna) posterior in relation to the humerus.² An anterior dislocation, much less common, results from a posterior blow, driving the olecranon forward from the humerus, although has been described in the literature from a simple fall onto an outstretched hand³ and is much more likely to have an associated brachial artery injury.

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Fig. 1. X-ray of injured elbow.

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